WHAT IS CLAIMED IS:

1. An automatic circuit design apparatus comprising:

an analyzer for analyzing a data set in a form of a table, both connection conditions concerning a plurality of circuit components within an integrated circuit and connections among the circuit components in each of the connection conditions being described in the data set; and

a description creating unit for creating a description of the integrated circuit with a hardware description language based on analytical results from said analyzer.

2. The automatic circuit design apparatus according to Claim 1, wherein said description creating unit selects one or more selector modules suitable for implementing connections among the plurality of circuit components in each of the connection conditions based on the analytical results from said analyzer, and adds information about said one or more selector modules to the description of the integrated circuit.

3. The automatic circuit design apparatus according to Claim 2, wherein said description creating unit adds information about a control signal creating module suitable for creating a control signal used to control said one or more selector modules to the description of the integrated circuit based on the analytical results from said analyzer.

4. The automatic circuit design apparatus according to Claim 2, wherein said analyzer analyzes the data set in which the connection conditions including a normal use mode in which

the integrated circuit normally operates and a plurality of secondary modes in which the integrated circuit secondarily operates are described, and said description creating unit selects a first selector module disposed among the circuit components that are connected to one another in the normal use mode based on the analytical results from said analyzer, selects a second selector module suitable for implementing connections among the circuit components in each of the plurality of secondary modes, and adds information about said first and second selector modules to the description of the integrated circuit so that an output of said second selector module is connected to an input of said first selector module.

5. The automatic circuit design apparatus according to Claim 1, wherein said analyzer analyzes the data set in which the connection conditions including a normal use mode in which the integrated circuit normally operates and a secondary mode in which the integrated circuit secondarily operates are described, and said description creating unit selects a gate module that effectively transmits a signal in the secondary mode among the circuit components that are connected to one another in the secondary mode based on the analytical results from said analyzer and adds information about said gate module to the description of the integrated circuit.

6. The automatic circuit design apparatus according to Claim 5, wherein said selected gate module has an output that is disabled in response to a control signal in the normal use mode.

7. The automatic circuit design apparatus according to Claim 1, wherein said analyzer analyzes the data set in which information about whether or not feeding of power to each of the plurality of circuit components can be stopped is described in addition to the connection conditions and connections, and said description creating unit selects a gate module arranged between a circuit component in which feeding of power can be stopped and another circuit component, for controlling transmission of signals between those circuit components, based on the analytical results from said analyzer, and adds information about said gate module to the description of the integrated circuit.

8. The automatic circuit design apparatus according to Claim 7, wherein said selected gate module has an output that is disabled in response to a control signal when feeding of power is stopped.

9. The automatic circuit design apparatus according to Claim 1, wherein said analyzer analyzes both a higher-level data set in a form of a table, in which both connection conditions concerning the plurality of circuit components within the integrated circuit and connections among the circuit components corresponding to each of the connection conditions are described, and a plurality of lower-level data sets in a form of a table, in each of which both connection conditions concerning internal elements within a corresponding one of the plurality of circuit components and connections among the internal elements corresponding to each of the connection conditions are described, and said description creating unit

creates an overall description of the entire integrated circuit and said plurality of circuit components at a time based on the analytical results from said analyzer.

10. A computer-implemented automatic circuit design method comprising the steps of:

analyzing a data set in a form of a table, both connection conditions concerning a plurality of circuit components within an integrated circuit and connections among the circuit components in each of the connection conditions being described in the data set; and

creating a description of the integrated circuit with a hardware description language based on analytical results obtained in the step of analyzing the data set.

11. The computer-implemented automatic circuit design method according to Claim 10, wherein the step of creating includes the steps of selecting one or more selector modules suitable for implementing connections among the plurality of circuit components in each of the connection conditions based on the analytical results, and adding information about said one or more selector modules to the description of the integrated circuit.

12. The computer-implemented automatic circuit design method according to Claim 11, wherein the step of creating includes the step of adding information about a control signal creating module suitable for creating a control signal used to control said one or more selector modules to the description of the integrated circuit based on the analytical results.

13. The computer-implemented automatic circuit design method according to Claim 11, wherein the step of analyzing is the step of analyzing the data set in which the connection conditions including a normal use mode in which the integrated circuit normally operates and a plurality of secondary modes in which the integrated circuit secondarily operates are described, and the step of creating includes the steps of selecting a first selector module disposed among the circuit components that are connected to one another in the normal use mode based on the analytical results, selecting a second selector module suitable for implementing connections among the circuit components in each of the plurality of secondary modes, and adding information about said first and second selector modules to the description of the integrated circuit so that an output of said second selector module is connected to an input of said first selector module.

14. The computer-implemented automatic circuit design method according to Claim 10, wherein the step of analyzing is the step of analyzing the data set in which the connection conditions including a normal use mode in which the integrated circuit normally operates and a secondary mode in which the integrated circuit secondarily operates are described, and the step of creating includes the steps of selecting a gate module that effectively transmits a signal in the secondary mode among the circuit components that are connected to one another in the secondary mode based on the analytical results, and adding information about said gate module to the description of the integrated circuit.

15. The computer-implemented automatic circuit design method according to Claim 14, wherein said selected gate module has an output that is disabled in response to a control signal in the normal use mode.

16. The computer-implemented automatic circuit design method according to Claim 10, wherein the step of analyzing is the step of analyzing the data set in which information about whether or not feeding of power to each of the plurality of circuit components can be stopped is described in addition to the connection conditions and connections, and the step of creating includes the steps of selecting a gate module arranged between a circuit component in which feeding of power can be stopped and another circuit component, for controlling transmission of signals between those circuit components, based on the analytical results, and adding information about said gate module to the description of the integrated circuit.

17. The computer-implemented automatic circuit design method according to Claim 16, wherein said selected gate module has an output that is disabled in response to a control signal when feeding of power is stopped.

18. The computer-implemented automatic circuit design method according to Claim 10, wherein the step of analyzing is the step of analyzing both a higher-level data set in a form of a table, in which both connection conditions concerning the plurality of circuit components within the integrated circuit and connections among the circuit components corresponding to

each of the connection conditions are described, and a plurality of lower-level data sets in a form of a table, in each of which both connection conditions concerning internal elements within a corresponding one of the plurality of circuit components and connections among the internal elements corresponding to each of the connection conditions are described, and the step of creating is the step of creating an overall description of the entire integrated circuit and said plurality of circuit components at a time based on the analytical results.